

CLAIMS

1. A driving circuit for a solid-state lighting array comprising:

- means for connection of said circuit to an incoming direct current supply;
- a plurality of solid-state lighting devices arranged in one or more series circuits with said means for connection to said power supply;
- at least one switchable parallel current path from said means for connection to said power supply to an intermediate point along at least one of said series circuits to form an alternative set of series circuits;
- at least one current regulating device in circuit with said one or more series circuits;
- a voltage sensor; and
- a control means to control a switch in said switchable parallel path such that said array of lighting devices may be reconfigured into said alternative set of series circuits to alter the quantity of lighting devices in one or more of said series circuits in response to changes in the voltage in the circuits.

2. A driving circuit for a solid-state lighting array as claimed in claim 1 wherein said at least one switchable parallel current path comprises a plurality of such current paths, each separately switchable.

3. A driving circuit as claimed in claim 1 or claim 2 wherein said plurality of current paths contain a generally equated load from the lighting devices.

4. A method of controlling a solid-state lighting array comprising the steps of:

- sensing a voltage supply to or in circuits through an array of solid-state lighting devices;
- providing at least a first serial path through said solid-state lighting devices;
- providing at least one switchable parallel input intermediate of the ends of said serial path;
- providing at least one current regulating device in circuit with said lighting device; and
- sensing the incoming voltage and controlling switches on said parallel path and to break the serial path into at least two parallel paths each containing a lesser number of solid state lighting devices than said serial path should the voltage drop below a pre-determined threshold.

5. A circuit containing solid-state lighting devices comprising:

- at least one serial path through said solid-state lighting devices;
- at least two alternative parallel paths through said solid-state lighting devices;
- at least one current regulating device in circuit with said lighting devices;
- switching means to switch said circuit from said serial path to a plurality of parallel paths containing a reduced load of lighting devices in each path; and
- control means to control said switches in response to detected voltage within said circuit.

6. A method of providing a circuit containing solid-state lighting devices comprising:

- arranging said solid-state lighting devices into a plurality of alternative circuits connected to at least one current regulating device; and
- 5 - switching between said alternative circuits to increase or decrease the number of circuits available and hence the number of solid-state lighting devices in each circuit in response to variations in the power available to the total number of circuits.

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